

CLAIMS

1. A circuit board (1) including chip components (3, 4) mounted thereon, the circuit board comprising:

5 a substrate including electrode patterns formed thereon;

plural first chip components (3a, 3b) which are included in said chip components and mounted through a conductive bonding material (70a) on said substrate; and

10 a second chip component (4) which is included in said chip components and mounted through a conductive bonding material (70b) on a side of said plural first chip components opposite from said substrate;

wherein one first chip component (3a) and the other
15 first chip component (3b) included in said plural first chip components have substantially a same height on said substrate, and said second chip component is bonded at one electrode (41) to an electrode (31) of said one first chip component and is bonded at the other electrode (41) to an
20 electrode (31) of said other first chip component.

2. The circuit board according to Claim 1, wherein said plural first chip components and said second chip component have lengths of 2 mm or less.

3. The circuit board according to Claim 1, wherein said plural first chip components and said second chip component are resistors, condensers or inductors.

5 4. The circuit board according to Claim 1, further comprising a reinforcing resin (5) configured to cover junctions between said plural first chip components and said second chip component on said substrate.

10 5. A circuit board (1) including chip components (3, 4) mounted thereon, the circuit board comprising:

a substrate (2) including electrode patterns (22) formed thereon;

15 a first chip component (3) which is included in said chip components and mounted through a conductive bonding material (70a) on said substrate; and

20 a second chip component (4) which is included in said chip components and mounted through a conductive bonding material (70b) on a side of said first chip components opposite from said substrate;

wherein a first chip component (3a) included in said first chip components is a component of a different type from the second chip component bonded to an electrode of said first chip component.

6. A chip-component mounting method for mounting chip components (3, 4) onto a substrate (2) including electrode patterns formed thereon,

a second chip component (4) being included in said chip components, and plural first chip components (3) having substantially a same height on said substrate and being included in said chip components and placed on said electrode patterns through a conductive bonding material (70a),

wherein, in placing said second chip component on said first chip components at an opposite side from said substrate, one of the electrodes (41) of said second component is placed through a conductive bonding material (70b) on an electrode (31) of one first chip component included in said first chip components while the other electrode (41) of said second component is placed through a conductive bonding material (70b) on an electrode (31) of another first chip component included in said first chip components, so that the components are mounted.

7. The chip-component mounting method according to Claim 6, wherein, in mounting said second chip component onto said first chip components through said bonding material after said first chip components are secured on said electrode patterns through said bonding material, only

a partial region on said substrate which includes said second chip component is heated for mounting the same.

8. The chip-component mounting method according to Claim 6, wherein the mounting of said first chip components on said electrode patterns through said bonding material and the mounting of said second chip component on said first chip components through said bonding material are performed through a single process.

9. The chip-component mounting method according to Claim 6, wherein, after said second chip component is secured to said first chip components through said bonding material to complete the formation of chip-component structure, said electrodes of said first chip components included in said chip-component structure are brought into contact with said electrode patterns, and said chip-component structure is secured to said substrate through said bonding material.

10. The chip-component mounting method according to Claim 9, wherein, in mounting said second chip component to said first chip components through said bonding material, said respective plural first chip components are held in concave portions (91) of a holding member (90).

11. The chip-component mounting method according to Claim 6, wherein said bonding material between said plural first chip components and said second chip component is a solder layer (43) formed on the electrodes of said plural first chip components or a solder layer (43) formed on the electrodes of said second chip component.

12. The chip-component mounting method according to Claim 6, further comprising covering junctions between said plural first chip components and said second chip component with a reinforcing resin (5), on said substrate.

13. A circuit board (201) including chip components (203, 204) mounted thereon, the circuit board comprising:

a substrate (202) including electrode patterns (222) formed thereon;

plural first chip components (203a, 203b) which are included in said chip components and mounted through a conductive bonding material (70c) on said substrate;

a secondary substrate (211) mounted on a side of said plural first chip components opposite from said substrate through a conductive bonding material (70a); and

a second chip component (204) included in said chip components which is mounted through a conductive bonding

material (70b) on a side of said secondary substrate opposite from said plural first chip components and is electrically connected to said plural first chip components through said secondary substrate;

5 wherein said plural first chip components have substantially a same height on said substrate, and only said plural first chip components exist as electronic components between said substrate and said secondary substrate.

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14. The circuit board according to Claim 13, wherein said plural first chip components and said second chip component have lengths of 2 mm or less.

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15. The circuit board according to Claim 13, wherein said plural first chip components and said second chip component are resistors, condensers or inductors.

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16. The circuit board according to Claim 13, wherein the number of said plural first chip components is two.

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17. A chip-component mounting method for mounting chip components (203, 204) onto a substrate (202) including electrode patterns (222) formed thereon, the method comprising:

mounting and bonding electrodes (231) of plural first chip components (203a, 203b) included in said chip components to one main surface (2111) of a secondary substrate (211) through a conductive bonding material (270a);

forming a formation of chip-component structure (210) configured to connect electrically said plural first chip components to a second chip component included in said chip components by bonding an electrode of said second chip component to electrodes (2102) on the other main surface (2112) of said secondary substrate opposite from said one main surface through a conductive bonding material (207b); and

bonding electrodes of said plural first chip components in said formation of chip-component structure to the electrodes (223) on said substrate through a conductive bonding material (270c) to mount the components;

wherein said plural first chip components have substantially a same height on said substrate, and only said plural first chip components exist as electronic components between said substrate and said secondary substrate.

18. A chip-component mounting method for mounting chip components (203, 204) onto a substrate (202) including

electrode patterns (222) formed thereon, the method comprising:

placing plural first chip components (203a, 203b) included in said chip components on electrodes (223) on
5 said substrate;

placing a secondary substrate (211) on a side of said plural first chip components opposite from said substrate to place electrodes (231) of said plural first chip components on electrodes (2102) on one main surface (2111)
10 of the secondary substrate;

placing an electrode (241) of a second chip component included in said chip components, on electrodes (2102) on the other main surface (2112) of said secondary substrate opposite from said single main surface; and

15 mounting said electrodes of said plural first chip components to said electrodes on said substrate, then mounting said electrodes on said one main surface of said secondary substrate to said electrodes of said first chip components, and then mounting said electrode of said second
20 chip component to said electrodes on said other main surface of said secondary substrate to mount the components, through conductive bonding materials;

wherein said plural first chip components have substantially a same height on said substrate, and only
25 said plural first chip components exist as electronic

components between said substrate and said secondary substrate.